

On two New Genera of THYSANOPTERA from Venezuela : *Anactinothrips* and *Actinothrips*. By RICHARD S. BAGNALL. (Communicated by the Rt. Hon. Lord AVEBURY, P.C., F.R.S., F.L.S.)

(PLATE 46.)

[Read 6th May, 1909.]

WHEN travelling in Venezuela in the year 1891 Dr. Meinert, of Copenhagen, made a small collection of Thysanopterous insects which he has kindly submitted to me for examination. Though poor in individuals the collection is unusually rich in species, and, owing to the difficulty I have experienced in satisfactorily tabulating certain genera, I have not yet been able to work out the whole material, but amongst those examined are two large and interesting species, each forming the type of a new genus, the subjects of this short paper. Both species were collected by Dr. Meinert at the same time and in the same place, and though each bears a strong superficial resemblance to the other, it will be seen that the genera are in reality widely separated, *Anactinothrips* naturally falling into the Phlœothripid group, and *Actinothrips* into the Idolothripid group of the Tubulifera.

In working out these species I have attempted, though imperfectly, to figure an organ, or series of organs, of doubtful function (Pl. 46. fig. 7 *a*). This organ apparently exists in all species of Thysanoptera, and is found at the base of the femur near the line of union with the trochanter, taking the form of a thinly chitinized area, or areas, of varying shapes. It was first discovered in the Thysanoptera by Dr. Trybom*, and suggested to him the auditory organs found in the tibiæ of certain *Locustidæ*.

It should be mentioned that the figure of the fore-tarsus of *Anactinothrips* (fig. 6) is taken from a mounted specimen in which the less strongly chitinized part of the foot (*i. e.*, the fore-part) has lost its original form.

In expressing my gratitude to Dr. Meinert I have pleasure in naming one of the species in his honour.

Order THYSANOPTERA.

Suborder TUBULIFERA.

Genus ANACTINOTHRIPS, nov.

Head twice as long as the prothorax and three times as long as the breadth immediately behind eyes; vertex slightly produced beyond eyes. Cheeks strongly widened at posterior third and set with a few short, stout spines. Mouth-cone broadly rounded, reaching more than halfway across prosternum.

* Entomologisk Tidskrift, xvii, 1896, pp. 102-4.

Eyes small; ocelli equidistant; postocular bristles very long, and a similar pair of bristles placed dorsally a little above the posterior third; anteoocular pair short and very stout. Antennæ slender, more than half as long again as the head.

Prothorax transverse. Fore-legs in the male strongly developed, and the tarsus armed with a very long, sharp tooth; in the female slender, and tarsus armed with a minute, forwardly-directed tooth. Sides of metathorax broadly rounded and armed with a sublateral bristle, and the metascutum furnished with a pair of long bristles, one near each anterior angle. Hind and intermediate legs long and slender. Wings moderately long, broad; median vein obsolete.

Abdomen broader than metathorax; more slender in the male than in the female. Tube long. Only a single pair of wing-retaining bristles on each of the segments so furnished; a pair of short postero-lateral spines on each of the segments one to eight; abdominal bristles strong.

Species large.

Type, *Anactinothrips Meinerti*, mihi.

ANACTINOTHRIPS MEINERTI, sp. nov. (Pl. 46. figs. 1-7.)

♀. Length 7.5 mm., breadth of mesothorax 0.875 mm., and breadth of metathorax through middle 1.0 mm.

Colour dark chestnut-brown, sides of intermediate abdominal segments with a reddish tinge; legs lighter and all tibiæ and tarsi reddish yellow; antennæ with second joint yellowish brown, third and fourth yellow and lightly shaded with brown near apices, basal half of fifth and base of sixth also yellow.

Head apparently elliptical in section, twice as long as the prothorax and three times as long as the width immediately behind eyes; vertex slightly produced beyond eyes. Cheeks rounded at basal third, where the head is once and one-third as wide as the width immediately behind eyes; set with a few short spines, a stout and prominent spine at basal third and two other slightly shorter ones immediately behind each eye. Eyes small, occupying laterally three-twentieths the length of head, and together four-sevenths the breadth; finely faceted; postocular bristles very long, and a pair of still longer ones set dorsally at about the basal third of head. Ocelli not large, equidistant; the posterior pair set on a line through anterior third of eyes and near their inner margins; anteoocular spines moderately long and very stout. Mouth-cone not quite so long as broad, rounded at tip; maxillary palpi short, with the apical joint only about twice the length of basal, and labial palpi also short and broad. Antennæ subapproximate, inserted at the extreme vertex of head, which is slightly swollen for their reception; long and slender, one and three-quarter times as long as the head; basal joint cylindrical, longer than broad, equal in length to the second but broader; second slightly

constricted towards base ; third to fifth mildly claviform, and sixth to eighth fusiform. Third joint six times the length of second ; fourth two-thirds of third ; fifth one-half of fourth ; sixth three-quarters of fifth ; seventh two-thirds of sixth ; the apical three-quarters of penultimate, much narrower and apparently having the apical third styliform. Sense-cones short and almost indistinguishable.

Prothorax strongly transverse, one-half as long medianly as broad ; dorsal surface with a slight depression near each fore-angle and a similar depression (or irregular fovea) just below centre of disc ; anterior margin emarginate and posterior margin arcuate, sides strongly and evenly widened posteriorly to mid-line where the breadth is equal to the breadth of base ; posterior angles rounded. Spines at posterior angles and the posterior-marginal pair long and strong, the inner pair being especially long ; pair at anterior angles very short and stout, and other prothoracic spines obsolete. Fore-coxa with one short and conspicuous spine ; fore-femur not strongly dilated, three and one-half times as long as wide through middle ; outer basal angle somewhat acute, and slight constriction before apex ; encircled before apex with several stout spines, which are shortest within, and two longer spines before middle ; similar arrangement of spines on the posterior and intermediate femora, but each with only a single long spine before middle. Two long bristles on all tibiæ just below knees, and a similar but weaker bristle before tip on the hind and intermediate pairs. Fore-tarsus armed with what appears to be a slender, acute, and forwardly-directed tooth. Posterior and intermediate legs long and slender. Pterothorax slightly broader than long ; mesothorax decidedly wider than the width across fore-coxæ, nearly five times as wide as long, and only one-half the length of metathorax ; metathorax strongly rounded laterally, and armed in the mid-line with a moderately long and strong sublateral dorsal spine, and a shorter lateral one near base. Metascutum armed with two very long bristles, each having its base near the anterior angles. Wings reaching to the sixth abdominal segment, strong and broad with the tips broadly rounded ; cilia fine, not exceptionally long ; median vein obsolete.

Abdomen subdepressed, broadening from the base to the third segment where it is decidedly broader than the metathorax, and from thence gradually narrowing to base of tube. Segments one to nine transverse, eighth and ninth apparently cylindrical, the eighth almost quadrate and as long as the preceding, and the ninth one-half the length of the eighth and two-thirds as long as wide. Tube with sides almost parallel, slightly widened near base and gently constricted near apex ; seven times as long as breadth through middle, not quite five times the length of the preceding segment, and equal in length to the dorsal length of head. Terminal bristles short. Bristles on hind margin of ninth segment very long ; about the length of tube. Other abdominal bristles more than usually stout, and placed as follows :—a short

one at each angle of the first abdominal tergite; a very small one and a longer one at each posterior angle of the second segment; a short one and two long ones at the posterior angles of each of the segments three to seven, which gain in length posteriorly. A single pair of weak, wing-retaining spines placed posteriorly on each of the segments three to six. In addition to the spines at the posterior angles of the seventh segment there are marginal spines present, and the eighth segment has a moderately long spine at each posterior angle as well as slightly shorter marginal spines.

♂. The male is smaller and has the abdomen more slender. It differs from the female in having the fore-femora and tibiæ greatly enlarged, the femur being strongly inflated and having the surface very glossy; and also in the possession of a very long and acute fore-tarsal tooth. The tube is six times as long as the ninth abdominal segment, and the ninth sternite is furnished with a pair of long bristles.

Habitat. One male and one female, Caracas, Venezuela (*Meinert*).

Type. In the Copenhagen Museum.

Genus ACTINOTHRIPS, nov.

♀. Head about twice as long as wide and only slightly swollen at basal third, a little more than twice the length of prothorax; vertex slightly produced beyond eyes. Cheeks armed with two pairs of stout spines. Mouth-cone reaching more than halfway across prosternum. Eyes medium-sized; anterior ocellus placed at extreme vertex and widely separated from posterior pair; postocular bristles short and anteocular pair obsolete. Antennæ very long and slender, at least three times the length of head; each basal joint armed with a strong dorsal spine near apex.

Prothorax transverse. Fore-legs slender, and fore-tarsus with a minute tooth. Pterothorax much wider than prothorax; metascutum armed with a pair of spine-set tubercles, one on each side of the mid-line and near the anterior margin. Wings long and slender; median vein strong, and reaching for almost the entire length of wing. Hind and intermediate legs long and slender.

Abdomen as wide as pterothorax, long and gradually narrowed from base to tube; each of the segments two to eight more or less produced laterally at apical third for seating of bristles; strongly sculptured dorsally. Tube very long, sparsely clothed with long, slender white hairs. Only a single pair of wing-retaining bristles on each of the segments so furnished, and a pair of rather long stout spines placed laterally below the abdominal bristles, which latter are moderately long but slender.

Type, Actinothrips longicornis, mihi.

Actinothrips somewhat closely resembles *Anactinothrips*, but may be easily separated by the relatively longer antennæ and tube; the form of head and abdomen; the spine on the first antennal joint; the ocelli which are not equidistant; the absence of the long, dorsal, cephalic bristles and of the anteocular spines, and by the possession of metascutular tubercles. In *Actinothrips* the wings are more slender, and each has a strong median vein reaching almost to tip, whilst in *Anactinothrips* the wing is much broader and the median vein is obsolete. This vein, and the absence of it, suggest the generic names *Actinothrips* and *Anactinothrips* respectively.

ACTINOTHRIPS LONGICORNIS, sp. nov. (Pl. 46. figs. 8-12.)

♀. Length 7·5 mm., breadth of mesothorax 0·8 mm.

General colour dark chestnut-brown, tibiæ and tarsi lighter; wings testaceous with median veins dark brown and cilia shaded with brown; antennæ with second joint reddish brown, joints three to five yellow tipped with brown, and sixth joint yellowish at base.

Head about twice as long as wide through eyes, and very slightly more than twice the length of the prothorax; vertex slightly produced beyond eyes. Head gently narrowed behind eyes, as gently widened to basal third and constricted at base; cheeks with a few hairs; a very strong pair of lateral spines immediately behind eyes and a similar pair at basal third. Eyes moderately large, bulging and finely faceted, occupying laterally about one-quarter the length of the head; postocular spines short and only moderately stout, placed shortly behind eyes; anteocular spines obsolete. Ocelli large, not equidistant; posterior pair close to the inner margins of eyes and above a line drawn through their anterior third, anterior one unprotected, placed at the extreme vertex. Mouth-cone reaching more than halfway across prosternum, maxillary palpus stout, having the apical joint about three times the length of the basal; touch-bristles short and stout. Antennæ very long and slender, at least three times the length of the head; sub-approximate; basal joint stout, longer than broad, cylindrical, and dorsally armed with a rather long and stout spine near apex; second joint narrower than first; third to sixth very mildly claviform; seventh fusiform, and eighth most probably fusiform, but unfortunately broken in the solitary specimen. Third joint seven times the length of second; fourth about five-eighths of third; fifth five-sixths of fourth; sixth three-fifths of fifth, and seventh one-half as long as the preceding. Sense-cones very long, slender and acute; three on third joint, five or more on fourth, three or more on the fifth, and two on the sixth.

Prothorax transverse, only a little more than one-half as long as broad, a long spine at each posterior angle set in a tubercle, and a similar pair of spine-

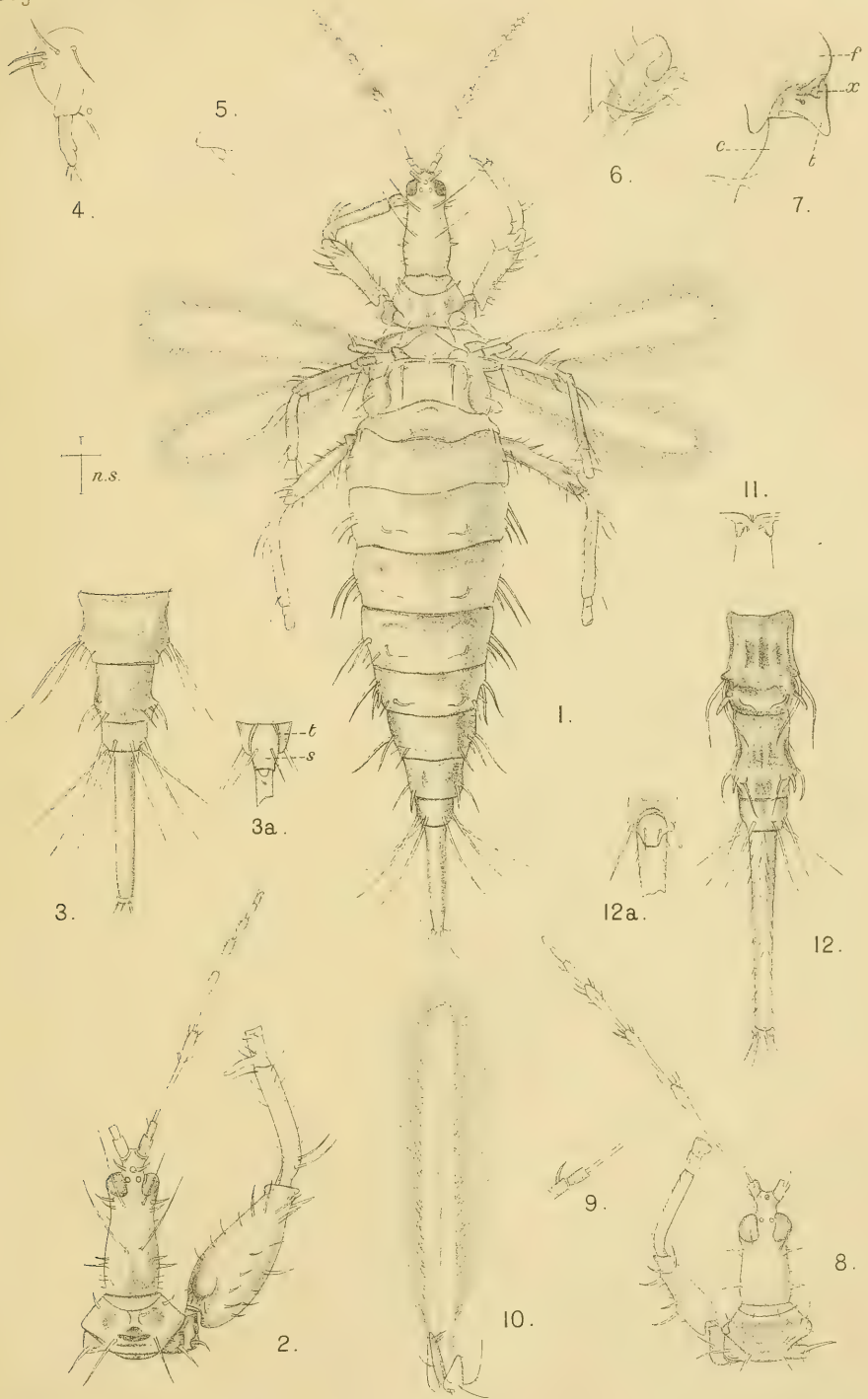
set tubercles above the mid-lateral angles; spines at anterior angles and the posterior-marginal and anterior-marginal pairs short and inconspicuous. Each of the prothoracic tubercles, in addition to the chief bristles, is armed with a short seta at the base behind. Fore-coxa with one moderately long and comparatively slender spine. Fore-femur encircled with a series of long and stout spines before apex, a similar series of spines near middle and a very long one on the outer edge behind middle. Fore-tarsus with a minute tooth. Hind femora considerably longer than the intermediate pair; both pairs encircled with a series of spines before apex, and armed with one or more strong spines at apical third. All tibiae furnished with rows of short, slender hairs, but without the long ones below each knee, and each hind tibia armed with a short and stout spine at tip within. Pterothorax much wider than the width across fore-coxa; metathorax strongly rounded laterally, furnished sparsely with short setae, and armed with one long and stout sub-lateral spine. Metascutum with a pair of erect tubercles, one on each side of mid-line near anterior margin, each armed with a long bristle. Meso- and metascutum rather closely set with numerous short hairs. Wings long and comparatively broad, reaching to the sixth abdominal segment; cilia rather heavy, and each wing with a very pronounced median vein running for about the entire length.

Abdomen gradually narrowing from base to tube, and each segment, excepting the ninth, armed with a pair of strong postero-lateral spines; a single pair of weak wing-retaining spines near the hind margins of the second to seventh segments; seventh segment longer than broad, with a deep elongated fovea on each side of the mid-line; eighth about one-half as long again as broad, with a pair of long and narrow fovea; ninth segment cylindrical, and only four-fifths as long as broad. Tube very long, nearly ten times as long as its breadth near base, eight times as long as the preceding segment, and twice as long as the head; slightly constricted before apex; surface sparsely covered with rather weak hairs. Terminal bristles short and weak, only about one-quarter the length of tube. Bristles on the ninth segment slender, only about one-third the length of tube; eighth with a moderately long bristle above the short spine at hind angles and a more slender one on the hind margin within, the other segments with two long bristles above each spine, the sixth and seventh segments having the inner pair of these longer than the outer.

Habitat. One female, Caracas, Venezuela (*Meinert*).

Type. In the Copenhagen Museum.

Wimlaton-on-Tyne, April 26th, 1909.



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NEW THYSANOPTERA.

EXPLANATION OF PLATE 46.

ANACTINOTHRIPS MEINERTI, gen. et sp. nov.

- Fig. 1. ♀, × 13·5. *n.s.* Natural size.
 2. ♂, head, prothorax, right fore-leg and antenna, × 19.
 3. ♂, end of abdomen, × 19. *a*, Ventral view of ninth segment; *t*, tergite; *s*, sternite.
 4. Right maxillary palpus, × 60.
 5. Right labial palpus, × 60.
 6. Left fore-tarsus, × 45.
 7. Part of left fore-leg showing organ of doubtful functions; *x*, organ; *c*, coxa; *f*, femur; *t*, trochanter. × 60.

ACTINOTHRIPS LONGICORNIS, gen. et sp. nov., ♀.

- Fig. 8. Head, prothorax, left fore-leg, and antenna, × 19.
 9. First two antennal joints viewed laterally, × 19.
 10. Right fore-wing, × 13·5.
 11. Metascutular tubercles, × 19.
 12. End of abdomen, × 19. *a*. Ventral view of ninth segment.